

MSC_VLR Interfaces (GSM Originating Call)					
Cell		Mobile Network		Fixed Network	EventStudio System Designer 4.0 13-Sep-08 21:38 (Page 1)
Mobile Station		Base Stations	NSS	PSTN	
User	Mobile	BSS	MSC VLR	PSTN	

LEG: GSM Mobile Originated Call

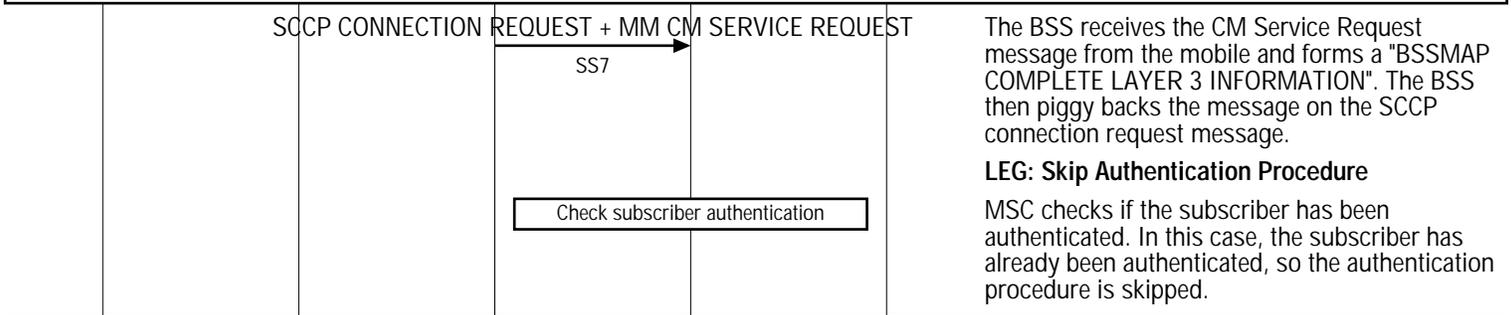
This sequence diagram was generated with EventStudio System Designer 4.0 (<http://www.EventHelix.com/EventStudio>). Copyright © 2008 EventHelix.com Inc. All Rights Reserved. The EventStudio source files for this document can be downloaded from <http://www.eventhelix.com/call-flow/gsm-call-setup.zip>.

This scenario describes the call setup for a GSM originating call. A mobile user calling a land line subscriber is covered here.
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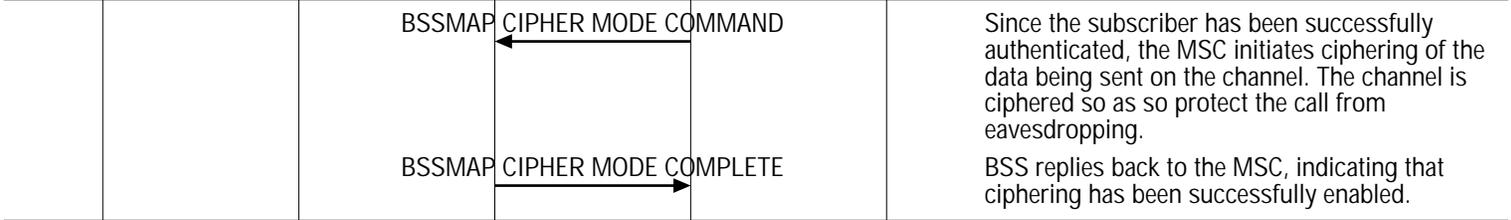
Begin RR Connection Establishment

Call related information needs to be transported from the mobile phone to the Mobile Switching Center (MSC). This requires the establishment of a Radio Resource (RR) connection to MSC. The first phase of the call setup just sets up this RR connection.

Note: The RR CHANNEL REQUEST is sent on a Random Access Channel (RACH). This is a slotted aloha channel that can be used at random, without any coordination between the mobiles. Any mobile can transmit on this channel whenever it wishes. If two mobiles transmit on the channel at the same time, their messages will be lost in a collision. The mobiles will detect the collision via a timeout and retransmit the message after a random back off.



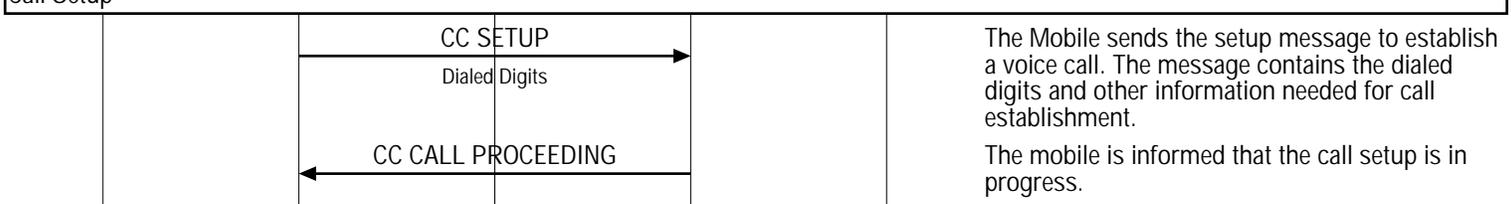
Enable Ciphering



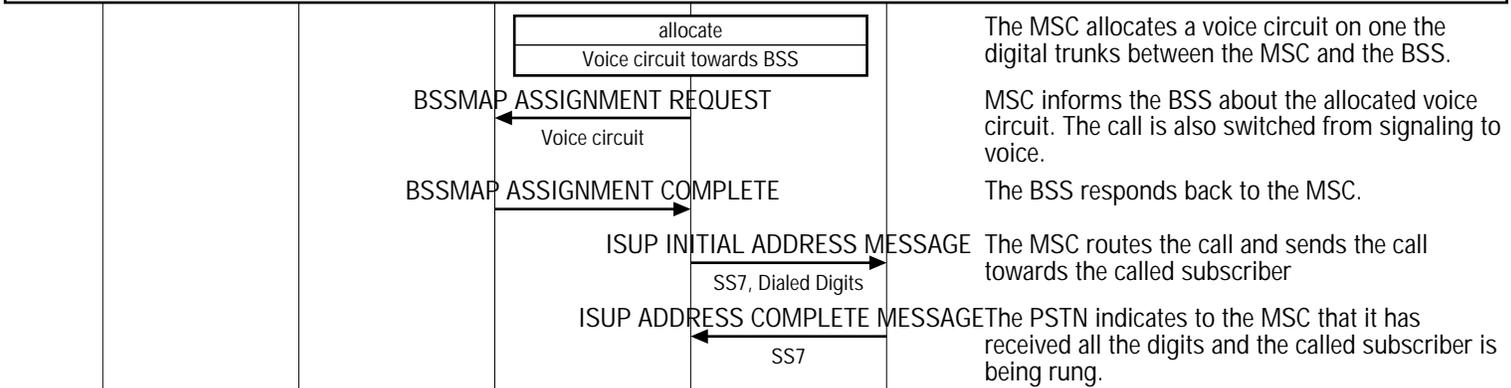
RR Connection Establishment Completed

At this point a connection has been setup between the Mobile and the MSC. From this point onward, the BSS is just acting as a conduit for transporting the signaling messages between the Mobile and the MSC.

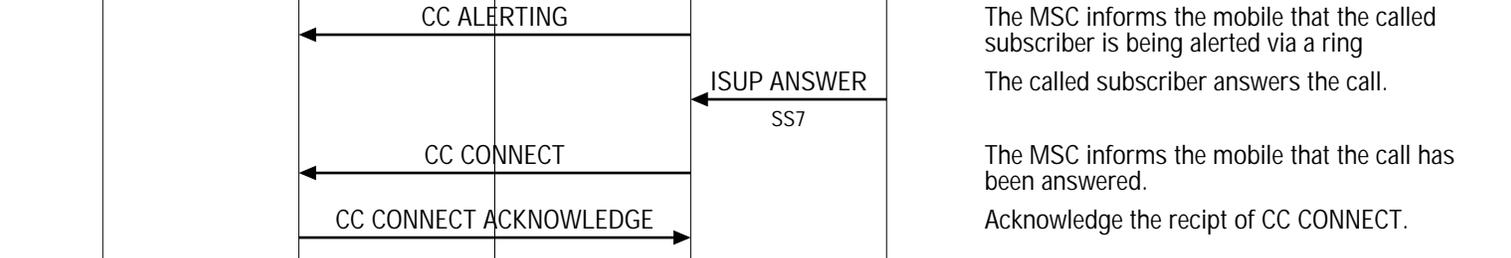
Call Setup



Mode Modify

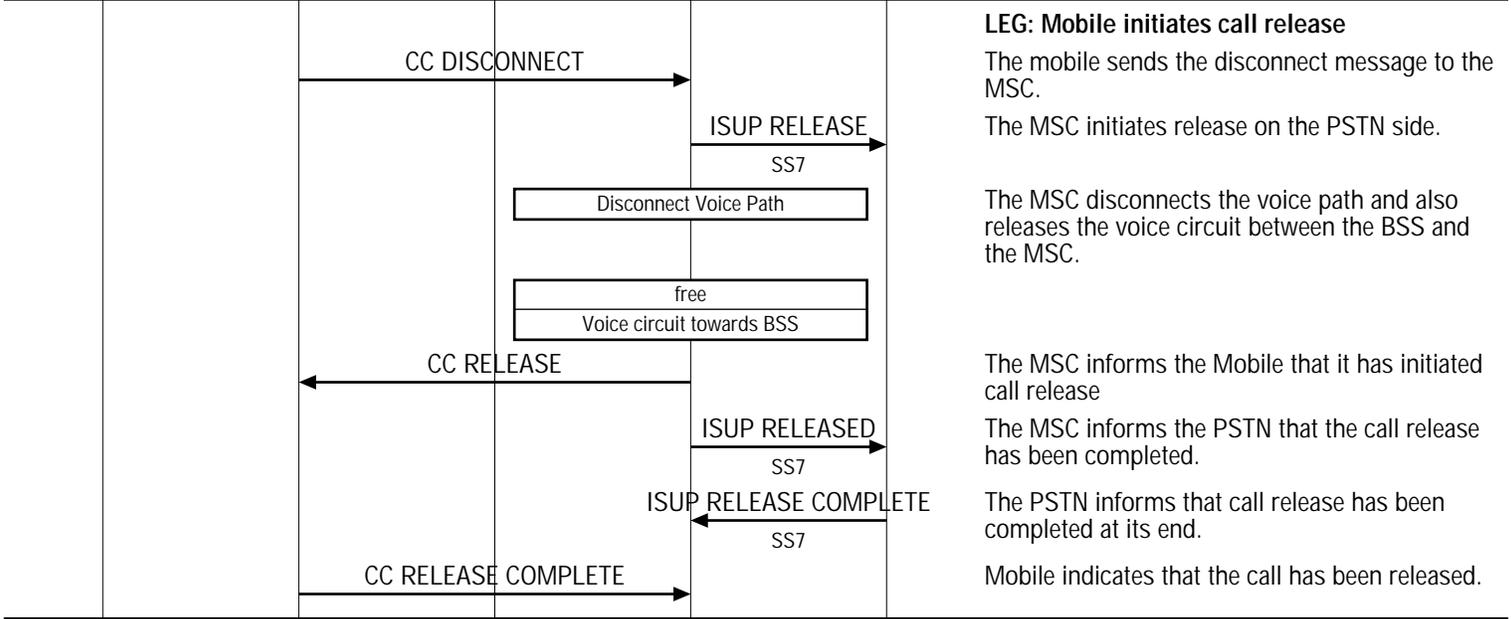


MSC_VLR Interfaces (GSM Originating Call)					
Cell		Mobile Network		Fixed Network	EventStudio System Designer 4.0 13-Sep-08 21:38 (Page 2)
Mobile Station		Base Stations	NSS	PSTN	
User	Mobile	BSS	MSC VLR	PSTN	



Conversation

Call Release



RR Connection Release

